

DRAFT

SS/WP4-0069
29 August 1991FCC ADVISORY COMMITTEE ON ADVANCED TELEVISION SERVICE
SYSTEMS SUBCOMMITTEE
WORKING PARTY ON SYSTEM STANDARDS (SS/WP4)

MINUTES OF THE TWELFTH MEETING

RECEIVED

MAY - 8 1992

Federal Communications Commission
Office of the Secretary

I. Minutes of the Meeting

1.0 Introduction and Approval of Agenda

The meeting was opened by the chairman, Dr. Robert Hopkins, at 10:10am at the National Association of Broadcasters facilities in Washington, D. C. The meeting agenda was distributed and approved without change.

2.0 Minutes of Previous Meetings

Comments on the minutes of the tenth and eleventh meetings were requested. Dr. Hopkins approved the minutes of the tenth meeting with a correction to section 6.0, page 4. The fifth sentence was changed from "except is employed" to "except that he is employed". Dr. Ienardi of Sarnoff requested clarification of the meaning of the last paragraph of section 2.1 of the minutes of the eleventh meeting. This sentence referred to the availability of ATTC test data from the NTSC dry run. The general response from the members was that the sentence accurately reflected the comments from that meeting and should remain unchanged. Dr. Hopkins requested that the Task Force on Data Analysis determine what NTSC dry run data would be available and when. Dr. Hopkins approved the minutes of the eleventh meeting without change.

3.0 Report from the Task Force on Report Drafting

Mr. Bruce Sidran of Bellcore presented the report. A letter with attachment (SS/WP4-0065) outlining the task force activities was distributed. The task force met on 24 July and 14 August 1991.

The work of the task force was embodied in the task force document which was attached to the above letter. This document is an expanded and modified version of the chart "SS/WP4 Selection Process" from Appendix IV of the working party's fourth interim report submission. Mr. Sidran said that the term "Critical Objectives" of the top box of the chart had been changed to "Selection Criteria" reflecting discussions from

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the tenth working party meeting. He said two new concepts were introduced in the revised chart. These were "Score" and "Weight" and are defined in Mr. Sidran's letter.

Mr. Baron of NBC asked what are the ten criteria and further, how did the process provide for change in these criteria as experience is gained. Mr. Sidran said the criteria were the section headings of the final report. Jeffrey Krauss said that it was the task force view that any new criteria must fight their way onto the list.

Mr. Baron stated that weighting is still objectionable, that the science is still evolving. He said he was not sure that establishing weights would produce the correct answer. Mr. Sidran said that weights would not be assigned until the data was in and that only significant differences between systems would be important. Mr. Lechner agreed that weights could not be assigned a priori but said that he felt they could not be assigned a posteriori either. He felt that weights would be adjusted until the answer desired by the group was achieved. He said that weighting is a bad idea.

There was extensive comment on the idea of a "reference system", "score" and "weighting" in the ensuing discussion. Dr. Hopkins then reviewed the record of the working party on the subject from the first officers meeting to the present. The record is full of weighting and ranking discussions but there has never been a consensus that weighting should be used. At the conclusion of the discussion, the following point of agreement was reached by the working party: ..

There is no consensus in the working party to apply weighting in selecting a proponent system.

Mr. Krauss, consultant to General Instruments, said that there was a sense of frustration on the part of General Instruments because we continue to lack a clear statement of what is desired in a system.

In further discussion of the diagram, Dr. Hopkins said that the removal of feedback to the top box (Selection Criteria) was a significant change. There were other comments that perhaps too much detail was being put into the process. Others said that a quantitative and algorithmic process should be avoided. The group agreed that feedback to the Selection Criteria should be shown. It was felt that there was sufficient built in reluctance to change by the requirement for achieving agreement for change. Mr. Krauss suggested that the approval of the selection criteria by the Advisory Committee in its recent Interim Report was important and that approval of the Advisory Committee might be required for changes to them. The predominant view of those present was that the Advisory Committee had not taken specific action on the issue but had merely accepted the report of the working party.

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Mr. Donahue of Thompson suggested that a box should be added that reflected how system improvement could be encouraged and accommodated. Mr. Henderson, of Hitachi, recommended that Target Values and Weighting should be removed from the diagram but that the changes showing added inputs should remain. Dr. Hopkins said that the original diagram (Appendix IV) had been approved and that the objective of the task force should be to clarify and elaborate but not change the basic flow and intent of that original. The group agreed. Mr. Sidran said that the change from Critical Objectives to Selection Criteria was based on discussions from the last meeting. The group agreed that any new version of the Appendix IV chart should reflect this change.

Dr. Hopkins said that the task force should:

- A. Review the existing working parties to determine which will not be active in the future and quickly define the input required from those groups and communicate this information to them.
- B. Refine an internal task force chart as required to accomplish the task force objectives. The importance of the chart should not be exaggerated

The next meeting of the Task Force on Report Drafting will be on 27 September 1991

4.0 Report from the Task Force on Data Analysis

Dr. Hopkins announced that Dave MacCarn of WGBH/PBS had accepted the chair of the task force which had been referred to as the Chapter Eight Task Force in earlier meetings. Mr. MacCarn said that only one meeting with few attendees had been held. A report of that meeting (SS/WP4-0065) was distributed. All those with a desire to participate should contact Mr. MacCarn.

Dr. Hopkins distributed a draft test and report schedule (SS/WP4-0068) to give SS/WP4 members a rough idea of the future schedule of work related to data analysis.

5.0 Other Business

Dr. Hopkins indicated that the work of the Task Force on Data Format was essentially completed at the joint meeting of SS/WP4 and SS/WP2. He said that the task force would be dissolved and expressed his thanks to the chair, Mr. Gaggioni, and the task force members. The working party members added their thanks as well.



**ADVANCED
TELEVISION
SYSTEMS
COMMITTEE**

Robert Hopkins
Executive Director

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November 5, 1991 **RECEIVED**

Mr. Richard E. Wiley, Esq.
Wiley, Rein and Fielding
1776 K Street
Washington, DC 20006

MAY - 8 1992

Federal Communications Commission
Office of the Secretary

Dear Dick:

I am pleased to report that SS/WP4 reached an agreement on target values for the selection criteria at our meeting earlier today. I hasten to point out that, in some areas, only rough points were agreed which I was to put into precise language following the meeting. The precise words used for the target values will continue to be discussed in SS/WP4, specifically in the Task Force on Report Drafting, as the task force continues to draft the SS/WP4 final report.

I have attached the list of target values.

Sincerely yours,

Robert Hopkins
Chairman, SS/WP4

cc: **SS/WP4 Members**

Target Values for the SS/WP4 Selection Criteria

SS/WP4 has identified ten criteria to be used in recommending an advanced television system. Target values are being developed to represent the target level of performance aspired to in an advanced television system. These target values do not represent minimum criteria that tested systems are expected to exceed. The ten selection criteria and associated target values are:

Coverage area — Comparable to NTSC.

Accommodation percentage — 100% of currently authorized full service stations and pending applications for full service stations. It is desirable to accommodate all noncommercial vacant allotments.

Audio/video quality — The CCIR has defined HDTV in terms of current television systems. That definition, applied to NTSC, leads to the following target value. The resolution should be about twice that of NTSC in both the vertical and horizontal directions, the temporal resolution should not be less than NTSC, the color rendition should be superior to NTSC, any artifacts should be less objectionable than are NTSC artifacts, the aspect ratio should be 16:9, and the subjective sound quality should be comparable to compact disc.

Transmission robustness — Better than NTSC within the defined coverage area.

Scope of services and features — When compared with NTSC, increased capability and flexibility in the ability to provide audio, captioning, data services, etc.

Extensibility — A new service must provide long life, just as NTSC has provided a long life, by supporting future enhancements and future technology advances.

Interoperability — A new service should be "friendly" to alternate delivery media. Interoperability with Cable TV is mandatory. Interoperability with VCRs, satellite, computer, data communications, and telecommunications applications with simple interfacing hardware is also an objective.

Cost to broadcasters

Cost to alternative media

Cost to consumers

It is difficult to establish target values for cost issues. Furthermore, cost is a function of market conditions and production volume. Perhaps, for these three issues, base-line costs are projected without targets. Key issues for broadcasters and cable operators would be the cost to "pass" programming. Key issues for consumers would be the cost of a receiver and a VCR after five years of production. In the SS/WP4 final report, it may be reasonable to point out the cost of current top-of-the-line NTSC projection receivers and top-of-the-line VCRs for reference, but not as target values.

SS/WP4 Actions Prior to the Meeting of the Special Panel

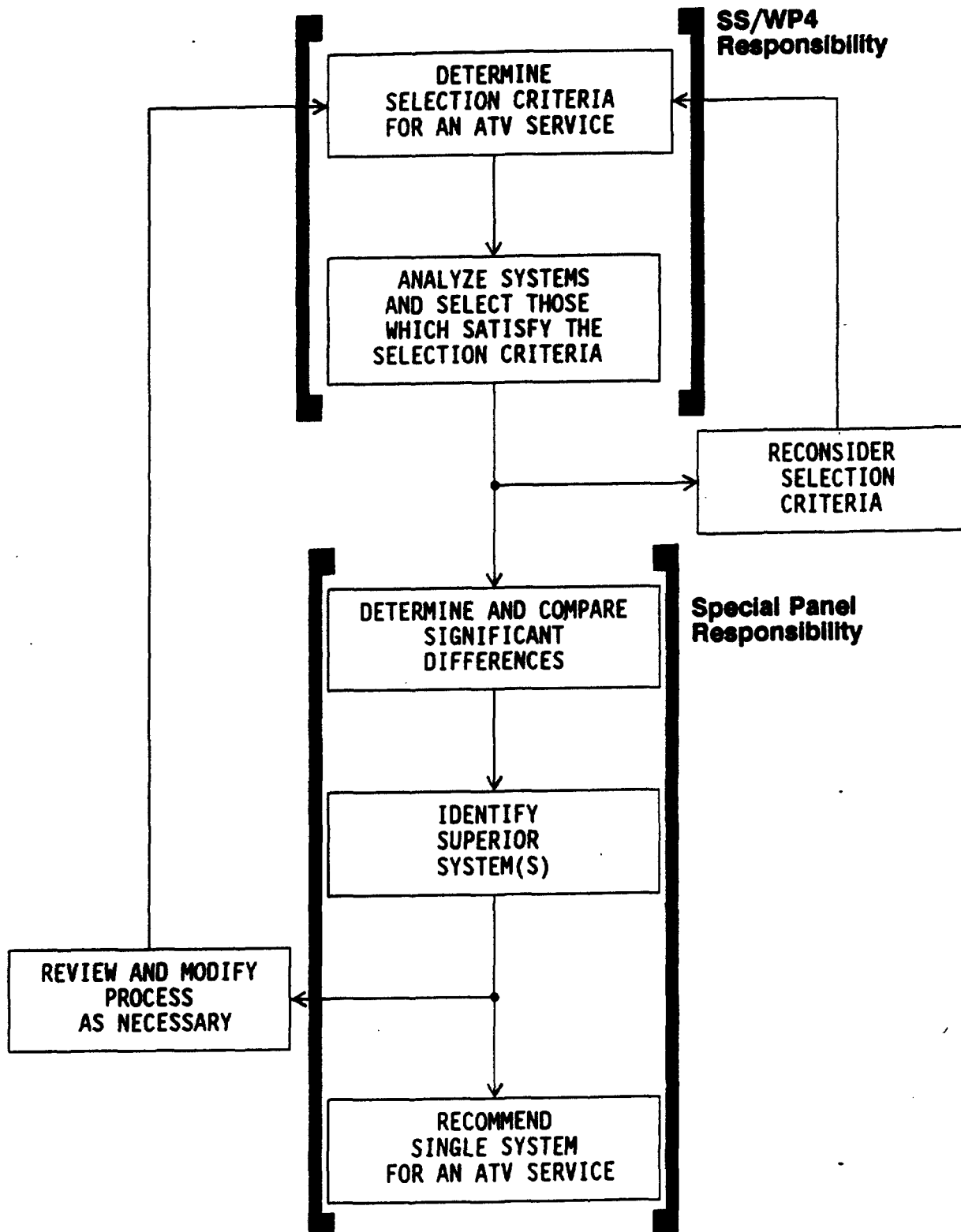
- SS/WP4 has developed a process for recommending an ATV system to the Advisory Committee (see Appendix I).
- SS/WP4 has developed a list of ten Selection Criteria (the first step in the Recommendation Process) and their associated target values (see Appendix II and Appendix III). The Selection Criteria fall into three categories:
 - Spectrum Utilization
 - Technology
 - Economics
- SS/WP4 has developed an outline for its final report (see Appendix IV). The first six chapters will include background information and contributions from other working parties. Chapters seven through nine will be the substantive contributions of SS/WP4. (Chapter seven will explain the Selection Criteria and their importance in the selection of an ATV system. Chapter eight will contain the analysis of each proposed system. Chapter nine will contain a comparison of proposed systems and recommendations.) The remainder of the final report will contain conclusions and other information regarding work which must be done in the future.
- SS/WP4 will write a report on each proposed system based on test data and economic analysis for inclusion in chapter eight of the SS/WP4 final report. The Selection Criteria will be the basis upon which each system is analyzed. (PS/WP3 will provide test analysis on Selection Criteria related to Spectrum Utilization. SS/WP4 task force will provide test analysis on Selection Criteria related to Technology. SS/WP3 will provide analysis on Economics related Selection Criteria.) These reports will be written, system by system, as test data becomes available. SS/WP4 will not attempt to reach conclusions in the individual system reports but will assure that a fair and balanced report is written on each system.
- After all system reports are completed and adopted by SS/WP4, one last meeting of SS/WP4 may be required to adopt a summary report. SS/WP4 would leave part, or all, of chapter nine (Comparisons and Recommendations) of the SS/WP4 final report to be completed by a Special Panel (or Recommendation Task Force) to be appointed by the Advisory Committee Chairman.

The Special Panel Meeting

- The Special Panel (or Recommendation Task Force) would meet shortly after the last SS/WP4 meeting. Its assigned objective would be to recommend an ATV system to the Advisory Committee.

- The meeting would begin on a Monday morning in a hotel in the Washington, D.C. area, but not downtown. The meeting would be conducted in a formal manner, similar to ITU meetings (CCIR and CCITT), with controlled interventions. The meeting would be open to the public, as are all Advisory Committee meetings, but for observation only.
 - Large table with assigned seating for the panelists
 - Chairs provided at the periphery of the room for observers
 - Strict, formal control of the meeting by the chairman
 - "Flags" for panelists to use to request the floor
 - Controlled interventions with the use of microphones for panelists
 - If desired, taping of the proceedings could be arranged
- Several presentations would be given on the opening day:
 - Statement of the objectives of the Special Panel
 - Final report of SS/WP4
 - Explanation of the Selection Criteria
 - Reports on each proposed system
 - Statements by each proponent
- Discussions and recommendations would be centered on identifying the system which best satisfies the Selection Criteria. The procedures shown in the Recommendation Process would be used.
 - Systems would be ranked on each Selection Criteria.
 - Inferior systems would be eliminated.
 - An overall best choice may become obvious when all systems have been ranked according to each Selection Criteria.
 - If no single winner becomes apparent, the relative importance of the Selection Criteria would be determined by the Panel.
 - If more than one choice continues to exist, the Panel would develop rationale for why each choice might be adopted by the FCC. The Panel would also list the disadvantages of each choice.
 - The goal of the meeting would be to reach consensus on an ATV system to be recommended to the Advisory Committee.
- Drafting groups would be assigned tasks as the meeting progresses. All text, including recommendations, would be approved by the full Panel.
- The meeting would not conclude until the work is complete (including the weekend if the work is not complete Friday afternoon). All text prepared during the meeting would be adopted during the meeting. No "after-the-fact" approvals would be required.

RECOMMENDATION PROCESS



SELECTION CRITERIA

Spectrum Utilization

Coverage Area

Accommodation Percentage

Economics

Cost to Broadcasters

Cost to Alternative Media

Cost to Consumers

Technology

Audio/Video Quality

Transmission Robustness

Scope of Services and Features

Extensibility

Interoperability considerations

Target Values for the Selection Criteria

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**FCC ADVISORY COMMITTEE ON ADVANCED TELEVISION SERVICE
SYSTEMS SUBCOMMITTEE
WORKING PARTY ON SYSTEM STANDARDS (SS/WP4)**

OUTLINE FOR SS/WP4 FINAL REPORT

- 1. Executive Summary**
- 2. Introduction**
- 3. Background and History**
- 4. Contributions from the Planning Subcommittee**
 - 4.1. WP1 — Working Party on Technology Attributes and Assessment
 - 4.2. WP2 — Working Party on Testing and Evaluation Specifications
 - 4.3. WP3 — Working Party on Spectrum Utilization and Alternatives
 - 4.4. WP4 — Working Party on Alternative Media Technology and BC Interface
 - 4.5. WP5 — Working Party on Economic Factors and Market Penetration
 - 4.6. WP6 — Working Party on Systems Subjective Assessment
 - 4.7. WP7 — Working Party on Audience Research
 - 4.8. AG1 — Advisory Group on Creative Issues
 - 4.9. AG2 — Advisory Group on Consumer/Trade Issues
- 5. Contributions from the Systems Subcommittee**
 - 5.1. WP1 — Working Party on Systems Analysis
 - 5.2. WP2 — Working Party on Testing and Evaluation
 - 5.2.1. ATTC Report
 - 5.2.2. CableLabs Report
 - 5.2.3. ATEL Report
 - 5.2.4. Field Test Report
 - 5.3. WP3 — Working Party on Economic Assessment
 - 5.4. WP4 — Working Party on System Standards
- 6. Contributions from the Implementation Subcommittee**
 - 6.1. WP1 — Working Party on Policy and Regulation
 - 6.2. WP2 — Working Party on Transition Scenarios

7. Selection Criteria

7.1. Introduction

7.2. Spectrum Utilization Criteria

- 7.2.1. Background**
- 7.2.2. Coverage Area**
- 7.2.3. Accommodation Percentage**

7.3. Economics Criteria

- 7.3.1. Background**
- 7.3.2. Cost to Broadcasters**
- 7.3.3. Cost to Alternative Media**
- 7.3.4. Cost to Consumers**

7.4. Technology Criteria

- 7.4.1. Background**
- 7.4.2. Audio/Video Quality**
- 7.4.3. Transmission Robustness**
- 7.4.4. Scope of Services and Features**
- 7.4.5. Extensibility**
- 7.4.6. Interoperability Considerations**

8. Analysis of System Data

8.1. System A

- 8.1.1. Policy and Regulatory Issues**
- 8.1.2. Spectrum Utilization**
- 8.1.3. Economics**
- 8.1.4. Technology**

8.2. System B

- 8.2.1. Policy and Regulatory Issues**
- 8.2.2. Spectrum Utilization**
- 8.2.3. Economics**
- 8.2.4. Technology**

8.3. System C

- 8.3.1. Policy and Regulatory Issues**
- 8.3.2. Spectrum Utilization**
- 8.3.3. Economics**
- 8.3.4. Technology**

8.4. Other Sections as necessary (one per system)

9. Comparisons and Recommendations

**Special Panel
Responsibility**

9.1. System Comparison

- 9.1.1. Policy and Regulatory Issues**
- 9.1.2. Spectrum Utilization**
- 9.1.3. Economics**
- 9.1.4. Technology**

9.2. Recommendations

- 9.2.1. Policy and Regulatory Issues**
- 9.2.2. Spectrum Utilization**
- 9.2.3. Economics**
- 9.2.4. Technology**

10. Implementation Plan

11. Future Work

- 11.1. Development of Standards**

12. Conclusions

13. Notes and Comment

14. Bibliography

15. Acknowledgements

Appendices

- A1. Raw Data**
- A2. Methods of Data Reduction**
- A3. Glossary**